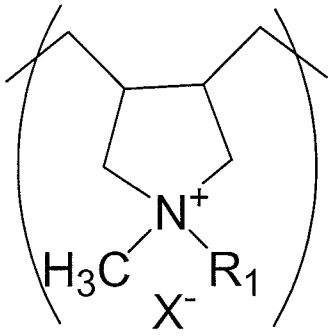
1. (Currently amended) Water soluble branched block copolymers that ~~comprise~~ consist of polymeric backbone chains of quaternary ammonium units of general formula I



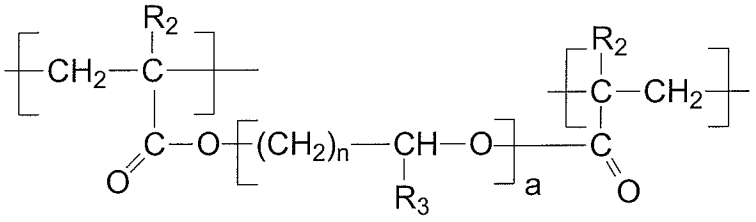
I

with

$R_1$ = H, alkyl ($C_1$-$C_8$)-

$X^-$ = a counterion,

~~whereby the backbone chains are~~ mutually linked together by ~~way of the feature that~~ poly(alkylene glycol) blocks, which ~~comprise~~ consist of units of general formula II



II

with

$R_2$ = H, methyl,

$R_3$ = H, methyl, ethyl,

n = 1 through 3, and

a = 6 through 100,

~~replace~~ replacing individual units of general formula I, and the proportion by mass of the units of general formula II is between 0.01 and 20 % by weight based on the total block copolymer.

2. (Cancelled)

3. (Previously presented) A block copolymer in accordance with claim 1 wherein the intrinsic viscosity of the block copolymer is between 25 and 600 ml/g when measured in 1 N sodium chloride solution at 30 °C.

4. (Currently amended) A block copolymer in accordance with claim 3, wherein the intrinsic viscosity of the block copolymer is between 400 and 600 ml/g when

measured in 1 N sodium chloride solution at 30 °C.

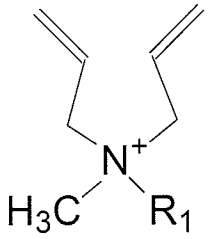
5. (Previously presented) A block copolymer in accordance with claim 1 wherein the Huggins constant is in the range between 0.3 and 0.5.

6. (Previously presented) A block copolymer in accordance with claim 1 wherein the polymeric backbone chain is derived, in the form of a unit of general formula I, from cyclic quaternary ammonium chlorides.

7. (Previously presented) A block copolymer in accordance with claim 1 wherein the poly(alkylene glycol) blocks are derived from compounds from the group of bis-acrylate esters or bis-methacrylate esters of poly(ethylene glycols), poly(propylene glycols), poly(butylene glycols), and/or polytetrahydrofurans.

8. (Previously presented) A block copolymer in accordance with claim 1 wherein the counterions $X^-$ are selected from the group comprising chloride and methosulfate.

9. (Currently amended) A process for the preparation of water soluble branched block copolymers ~~via~~ consisting of the [free] radical polymerization of a quaternary diallylammonium compound of general formula III,



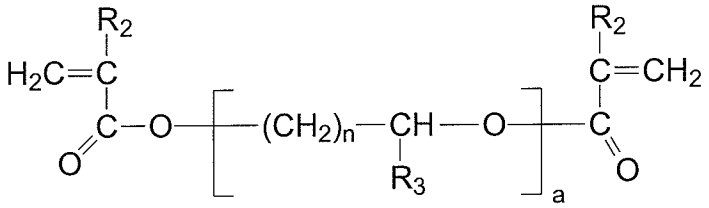

III

with

$R_1$ = H, alkyl ($C_1$-$C_8$)

X- = a counterion,

and bis-acrylate esters or bis-methacrylate esters of poly(alkylene glycols) of general formula IV,




IV

with

$R_2$ = H, methyl,

$R_3$ = H, methyl, ethyl,

n = 1 through 3, and

a = 6 through 100,

~~whereby~~ the proportion by mass of the compound of general formula IV ~~amounts~~ amounting to between 0.01 and 20 % by weight based on the two starting compounds.

10. (Previously presented) A process in accordance with claim 9, wherein diallyldimethylammonium chloride is used as the diallylammonium compound.

11. (Previously presented) A process in accordance with claim 9 wherein compounds from the group of bis-acrylate esters or bis-methacrylate esters of poly(ethylene glycols), poly(propylene glycols), poly(butylene glycols), and/or polytetrahydrofurans are used as the poly(alkylene glycol).

12. (Previously presented) A process in accordance with claim 9 wherein, as the initiator, use is made of a water soluble azo compound, or a redox system comprising peroxodisulfates and an amine.

13. (Previously presented) A process in accordance with claim 12, wherein, as the initiator, use is made of a redox system comprising peroxodisulfates and an alkoxylated amine surfactant.

14. (Previously presented) A process in accordance with claim 9 wherein the poly(alkylene glycol) is added during polymerization of the quaternary diallylammonium compound within the 0 to 80 % range of extents of reaction either in the form of one shot, or in portions, or continuously.

15. (Previously presented) A process in accordance with claim 9 wherein the process takes place in aqueous solution.

16. (Previously presented) A process in accordance with claim 9 wherein the process takes place using an inverse emulsion procedure.

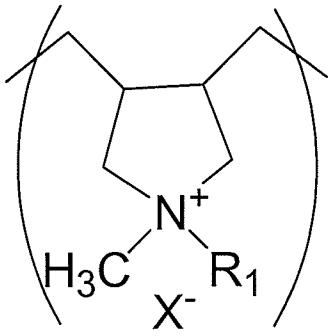
17-18. (Cancelled)

19. (Previously presented) A block copolymer in accordance with claim 2 wherein the intrinsic viscosity of the block copolymer is between 25 and 600 ml/g when measured in 1 N sodium chloride solution at 30 °C.

20. (Currently amended) A block copolymer in accordance with claim 19 wherein the intrinsic viscosity of the block copolymer is between 400 and 600 ml/g when measured in 1 N sodium chloride solution at 30 °C.

21. (Currently amended) A method of making at least one of a

coagulating agent and a flocculating agent for the separation of suspended solids, the method comprising providing water soluble branched block copolymers that ~~comprise~~ consist of polymeric backbone chains of quaternary ammonium units of general formula I



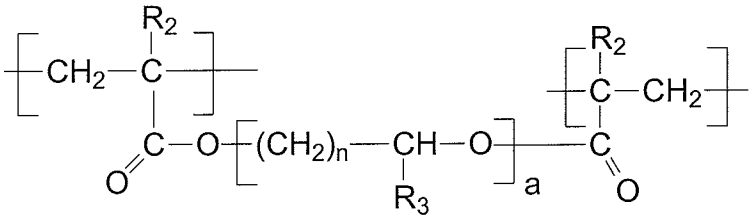

I

with

$R_1$ = H, alkyl ($C_1$-$C_8$)

$X^-$ = a counterion,

~~whereby the backbone chains are~~ mutually linked together by ~~way of the feature that~~ poly(alkylene glycol) blocks, which ~~comprise~~ consist of units of general formula II




II

with

$R_2$ = H, methyl,

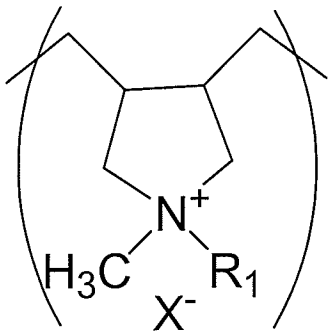
$R_3$ = H, methyl, ethyl,

n = 1 through 3, and

a = 6 through 100,

~~replace~~ replacing individual units of general formula I, and the proportion by mass of the units of general formula II is between 0.01 and 20 % by weight based on the total block copolymer.

22. (Currently amended) A method for at least one of the manufacture of paper, the treatment of waste water, and the removal of water from sludge comprising providing water soluble branched block copolymers that ~~comprise~~ consist of polymeric backbone chains of quaternary ammonium units of general formula I



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$R_1$ = H, alkyl ($C_1$-$C_8$)

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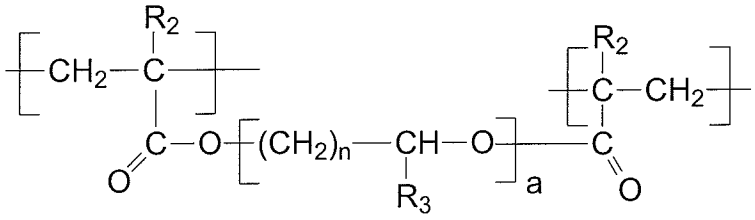
~~whereby the backbone chains are~~ mutually linked together by ~~way of the feature that~~ poly(alkylene glycol) blocks, which ~~comprise~~ consist of units of general formula II



II

with

$R_2$ = H, methyl,

$R_3$ = H, methyl, ethyl,

n = 1 through 3, and

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~~replace~~ replacing individual units of general formula I, and the proportion by mass of the units of general formula II is between 0.01 and 20 % by weight based on the total block copolymer.